

WHAT IS CLAIMED IS:

1. A process for treating a gas containing fluorine-containing compounds and CO which comprises contacting the above described gas with  $O_2$  and  $H_2O$  at a temperature of  $850^\circ C$  or higher to oxidize the CO to  $CO_2$ ; and then contacting the gas with  $\gamma$ -alumina at a temperature of  $600-900^\circ C$  to decompose the fluorine-containing compounds.
2. The process of claim 1, wherein the  $\gamma$ -alumina has a crystal structure which exhibits diffraction lines having an intensity of 100 or more at five angles of  $33^\circ \pm 1^\circ$ ,  $37^\circ \pm 1^\circ$ ,  $40^\circ \pm 1^\circ$ ,  $46^\circ \pm 1^\circ$  and  $67^\circ \pm 1^\circ$  of the angles of diffraction  $2\theta$  measured by an X-ray diffraction apparatus.
3. An apparatus for treating a gas containing fluorine-containing compounds and CO which comprises a heat oxidation vessel having a hollow inside enabling the passage of the above described gas therethrough, a heating means capable of heating the temperature of the gas in the hollow inside to  $850^\circ C$  or higher, a gas inlet, an  $O_2$  inlet and  $H_2O$  inlet; and a catalytic reaction vessel which is under fluid-communicating condition with the heat oxidation vessel and has been filled with  $\gamma$ -alumina.
4. The apparatus of claim 3, wherein the catalytic reaction vessel further has a heating means capable of heating the  $\gamma$ -alumina to 600 to  $900^\circ C$ .
5. The apparatus of claim 3, wherein the  $\gamma$ -alumina has a crystal structure which exhibits diffraction lines having an intensity of 100 or more at five angles of  $33^\circ \pm 1^\circ$ ,  $37^\circ \pm 1^\circ$ ,  $40^\circ \pm 1^\circ$ ,  $46^\circ \pm 1^\circ$  and  $67^\circ \pm 1^\circ$  of the angles of diffraction  $2\theta$  measured by an X-ray diffraction apparatus.
6. The apparatus of claim 3, wherein the heat oxidation vessel further has a contact auxiliary means for enhancing the contact efficiency of the CO in the gas with  $O_2$  and  $H_2O$ .
7. The apparatus of claim 4, wherein the heat oxidation vessel further has a contact auxiliary means for enhancing the contact efficiency of the CO in the gas with  $O_2$  and  $H_2O$ .
8. The apparatus of claim 5, wherein the heat oxidation vessel further has a contact auxiliary means for enhancing

the contact efficiency of the CO in the gas with O<sub>2</sub> and H<sub>2</sub>O.

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